Multi-Touch Interaction using Dynamic Chord Gestures

Jianqiao Li  Columbia University and Inria
Wendy Mackay  Inria
Steve Feiner  Columbia University
Problem

• Large applications with many commands
• Users want to concentrate on tasks, not tools

Opportunity

• Multi-touch displays becoming ubiquitous

Approach

• Chords
  + Take advantage of multi-touch input
  + Efficient parallelism
  – Difficult to learn
Previous Work

- NLS — D Engelbart et al., 1968
  - Chord keysets
- Marking menus — G Kurtenbach & B Buxton, 1993
  - Dynamic feedforward/feedback for single-touch menus
- Chord menus
  - G Lepinski et al., Multitouch marking menus, ACM CHI 2010
  - OKC Au & CL Tai, Multitouch finger registration, OZCHI 2010
  ...
Previous Work

• Arpège — E. Ghomi et al., ACM ITS 2013
  – Progressive feedforward to learn chords in context
    • One finger at a time
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  - Progressive feedforward to learn chords in context
    - One finger at a time
  - Novices pause to get help, experts “just do it”
  - Large potential chord vocabulary
DynaChord

Hierarchical chords

• Top level reveals categories
DynaChord

Hierarchical chords
• Top level reveals categories
• Subsequent levels reveal tools
DynaChord

Continuous gestures

- Dynamic gestures for continuous interaction
  - Changing parameters
DynaChord Demo